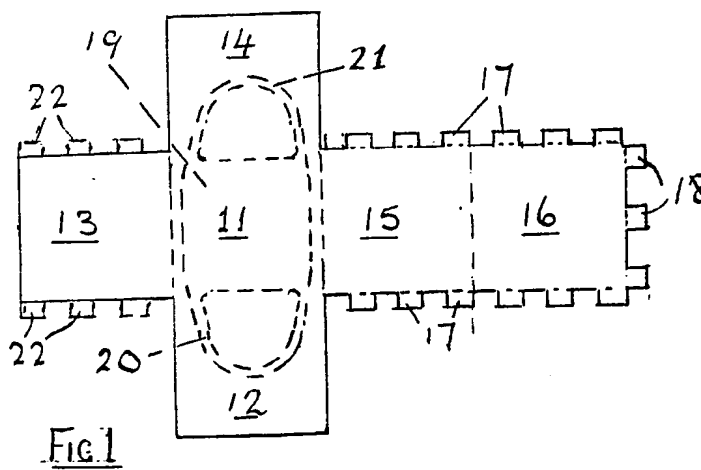


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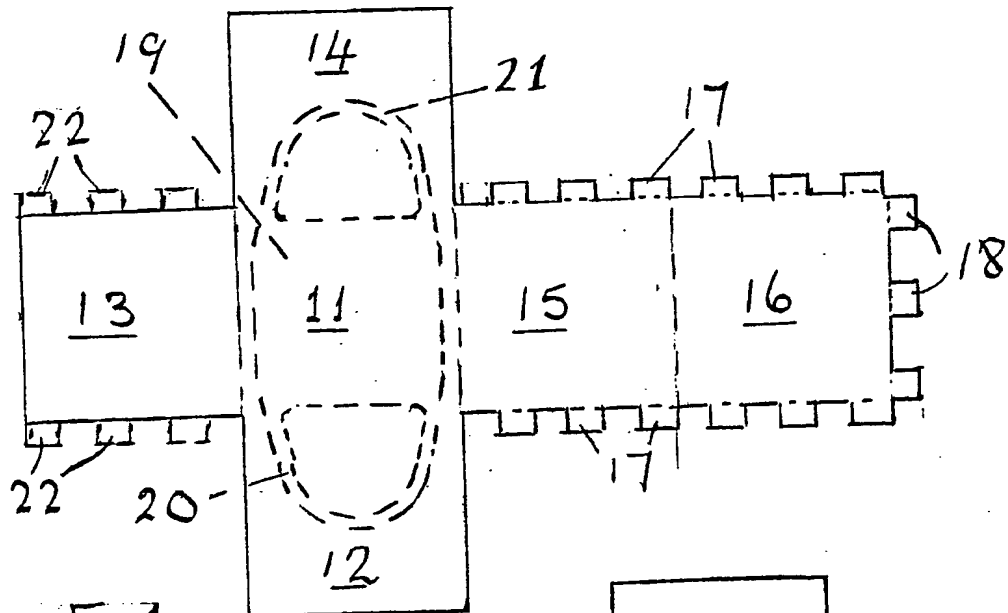
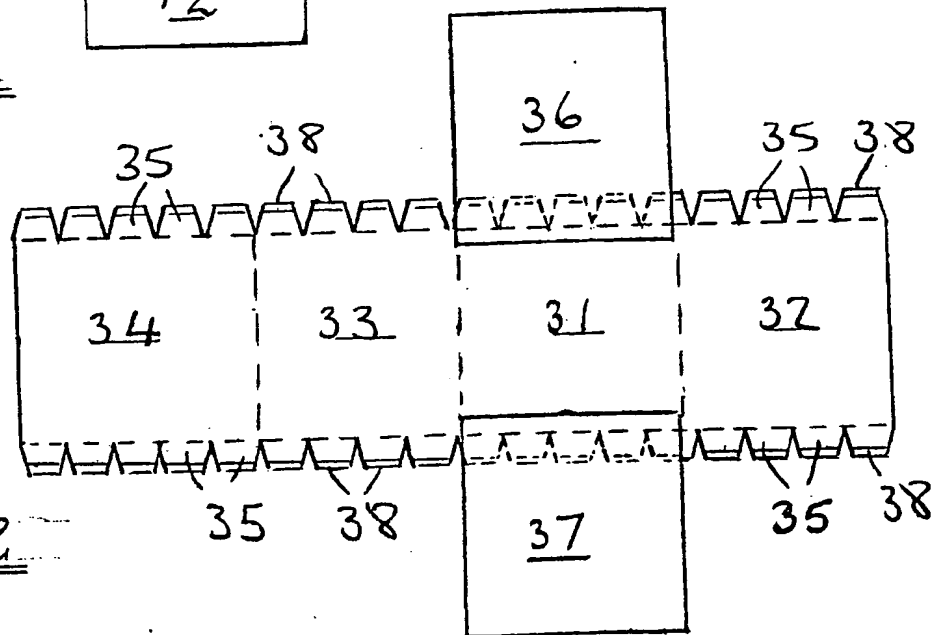
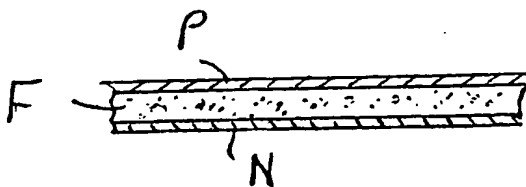
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(54) Packaging

(57) A re-usable packaging e.g. for electrical appliances is formed from a blank, of flexible material, including four side panels 12 - 15 and a top panel 16, with releasable fasteners 17, e.g. of touch-and-close material, for retaining the blank in a box-like form with one open end. The blank may include a bottom panel 11, or may be used in combination with a separate bottom panel, and such bottom panel may include handles 20, 21 for manually moving the packaged article. The blank may be formed from a laminate comprising an outer brushed nylon layer, a central layer of resilient foam and an inner PVC layer.

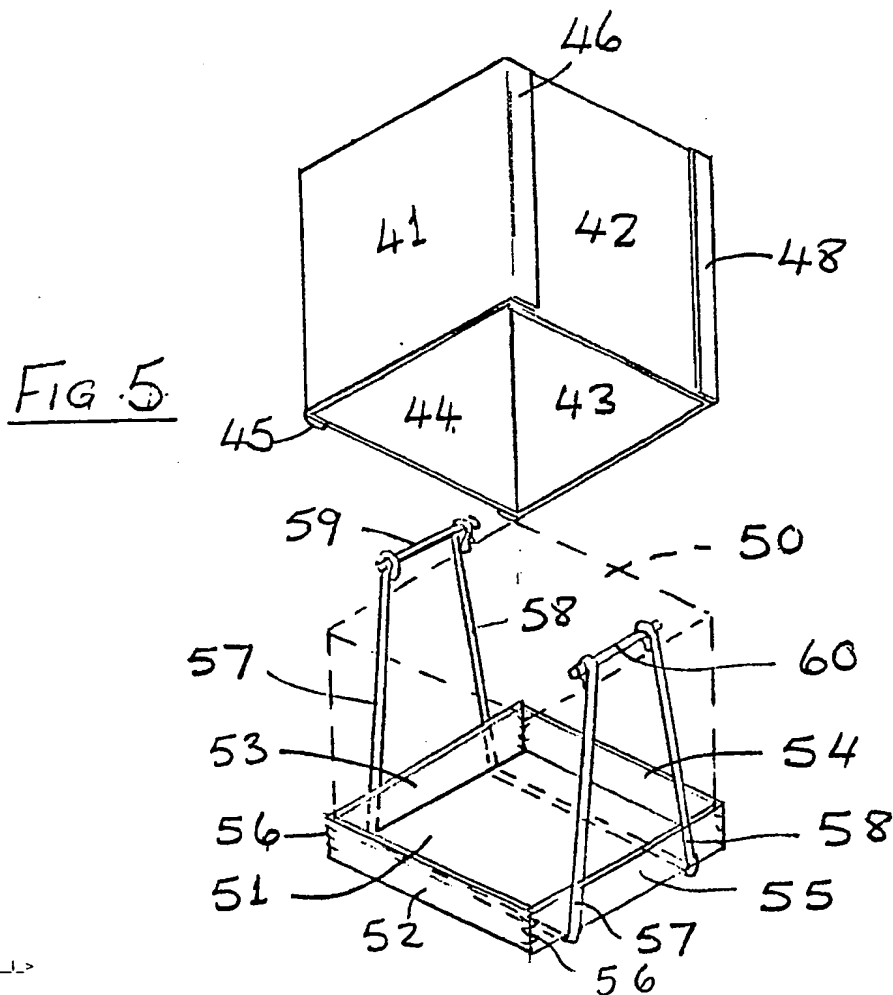
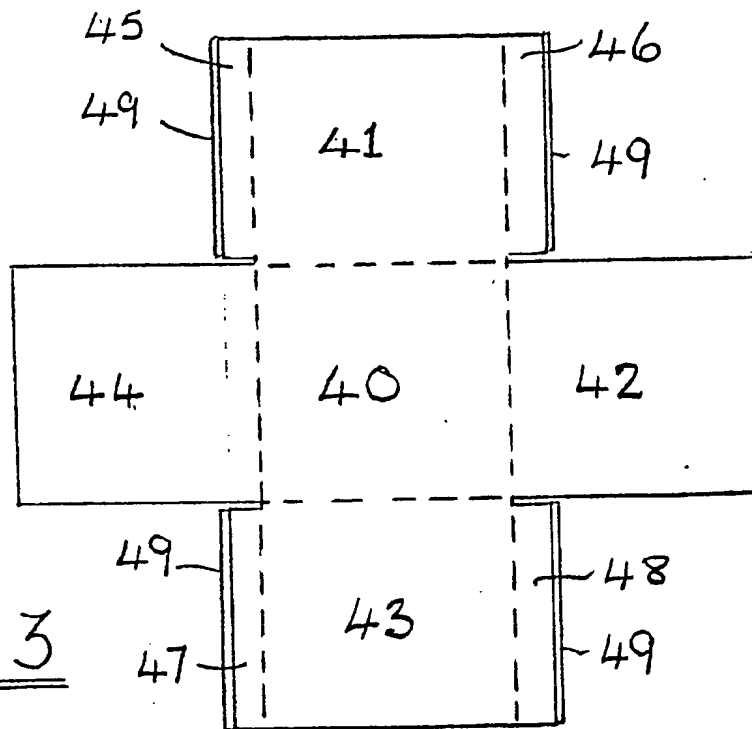


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FIG 1FIG 2FIG 4

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SPECIFICATION

Improvements in or relating to packaging

- 5 This invention relates to the packaging of articles and more particularly to the individual packaging of generally rectangular articles.

- It is known in the art to package cabinet-like articles, such as filing cabinets, domestic refrigerators, washing machines and television sets, hereinafter referred to as articles of the type defined, at the manufacturing location to protect the articles during storage and transportation to the consumer location and maintain the article in pristine condition. Conventional packaging for such articles comprises simple wraps of corrugated paper, quite inadequate for effective protection of the article, or individual boxes or cartons of board or corrugated paper, with or without internal packaging such as shaped polystyrene elements. A difficulty with the prior art packaging is that the packaging is so rarely recoverable in such condition as to be re-usable that conventionally the packaging is non-returnable. Such use of effective, non-returnable packaging is expensive and constitutes a substantial waste of packaging material.

- A further difficulty with boxes, cartons, and the like containers for articles of the type defined arises when the manufacturer produces a range of articles of different dimensions, when the manufacturer must, for efficient packaging, maintain stocks of differently sized containers, or provide a single large size of container with differently shaped package elements.

- 35 The present invention seeks to provide a reusable packaging for articles of the type defined. According to the present invention there is provided a packaging for an article of the type defined comprising a blank including four side panels intended to embrace the four sides of a packaged article, and a top panel intended to overlay the top of a packaged article, with detachable fasteners for retaining the blank in a box-like form.

- In one embodiment in accordance with the invention the blank is of cross-like configuration, whereby the top panel has a side panel attached to each of its edges and the fastening means are restricted to the side edges of the side panels.

- In an alternative arrangement the four side panels are attached in side by side relationship and the top panel is attached along one edge to one free edge of one side panel. In such an arrangement the fastening means are conveniently restricted to the free edges of the top panel and/or the free edges of the side panels, adjacent the edge of the side panel to which the top is attached, and to the two side edges of the assembly of side panels.

- Preferably the blank is of unitary construction but, the blank may conveniently comprise two or more blank parts with fastening means for connecting the blank parts together in any one of a plurality of different positions, whereby to accommodate articles of different dimensions.

- Preferably the blank includes a bottom panel. In an alternative packaging arrangement the blank is used

in combination with a bottom panel, conveniently having side walls attached to each of its side edges, and intended, in use, to be upstanding from the bottom panel.

- 70 When the blank includes, or is used in combination with, a bottom panel, the bottom panel preferably presents hand grips intended, in use, to lie adjacent opposite sides of an article supported squarely on the bottom panel.

- 75 The blank may conveniently comprise a woven or felt material or a plastics material but preferably comprises a brushed nylon. Alternatively the blank may be of a sandwich construction, conveniently made up of layers of different materials, and most preferably with brushed nylon forming the intended external material when the blank forms a packaging.

- In a preferred embodiment the blank includes strengthening panels, conveniently canvas panels, secured to the blank by stitching.

- 85 The fasteners may comprise press studs, laces, zip fasteners, and any other conventional detachable fastener arrangement capable of attaching together two material edges but preferably the fasteners comprise strips of velcro (Registered Trade Mark) material.

- In one embodiment in accordance with the invention at least some of said fasteners are arranged on panels or strips forming extensions to the panels forming the blank but, in other embodiments, such fasteners are restricted to those edges of the panels to be secured together to form the packaging.

- The invention will now be described further by way of example with reference to the accompanying drawings in which -

- 100 *Figure 1* shows a blank, for packaging, in the open condition,

- Figure 2* shows a second blank, for packaging, in the open condition,

- Figure 3* shows a third blank, for packaging, in the open condition,

- Figure 4* shows a detailed cross section through one material suitable for the blanks illustrated in *Figures 1, 2 or 3* and

- Figure 5* shows the blank of *Figure 3*, in packaging form, in combination with a bottom panel arrangement.

- The blank shown in *Figure 1* comprises a rectangular bottom panel 11 with four side panels 12, 13, 14 and 15 extending from the four sides thereof with a top panel 16 extending from that edge of panel 15 remote from the bottom panel 11. The blank may be cut from a rectangular blank of material, by simply cutting four rectangular pieces from the corners of a rectangular blank, or the blank may be made up in a number of different ways, for example with the panels 11, 12 and 14 forming one piece, panels 15 and 16 forming a second piece, panel 13 forming a third piece, with the three pieces stitched together to the configuration illustrated. The blank may, of course, be made up by stitching together individual panels 11 to 16 inclusive.

- The panels 11 to 16 are conveniently of sandwich construction comprising an intermediate layer or "filling" of resilient material between sheets or panels of woven, felted or plastics materials. The

external surfaces of the panels 11, 12, 13, 14, 15 or 16, external when the packaging is applied to an article, may be of different material to the internal surface, such that one of said surfaces is more resistant to abrasion, penetration of liquid or vapours, or capable of retaining printed matter thereon or attached thereto, than the other said surface. In the illustrated example the blank has an external surface, external when the packaging is applied to an article, which has a pile finish, co-operable with a velcro material, as will become apparent hereinafter.

The panel 15 and the top panel 16 have, along their opposite side edges, spaced apart outwardly extending panels 17 of velcro material, and the top panel 16 also has outwardly extending panels 18 of velcro material spaced along the free edge. The velcro panels define the fastening panels for the packaging.

The bottom panel 11 also has a panel 19 of canvas material attached, conveniently by sewing, to its external surface, external when the packaging is applied to an article, and two handles 20 and 21 extending oppositely from panel 19.

To package an article in the illustrated blank the blank is first spread open, with its intended external surface lowermost, and an article to be packaged is placed squarely on the bottom panel 11. The side panels 12 and 14 are then raised to embrace the sides of the article, panel 15 is raised to contact its side of the article, and the velcro panels 17 of panel 15 are bent over to contact the pile finish on the adjacent external surfaces of panels 12 and 14 to engage therewith in fastening relationship. The panel 13 is then raised to embrace its respective article side and top panel 16 is drawn over the top of the article and its panels 17 are turned down to engage the external surfaces of panels 12 and 14, adjacent the free edges of said panels 12 and 14, in fastening relationship whilst the velcro panels 18 on panel 16 overlay the external surface of panel 13, adjacent the free edge of panel 13, and are pressed into fastening relationship with panel 13.

With the article packaged as defined above the handles 20 and 21 are accessible and may be raised to lie adjacent side panels 12 and 14 to facilitate handling of the packaged article and, in a preferred embodiment, the handles 20 and 21 may be attached to panels 12 and 14 to increase the stability of the article during handling and to prevent said handles from being trapped beneath adjacent packaged articles in storage.

It will be appreciated that the blank illustrated may be utilized to package a wide range of articles of different dimensions. When the article has a base length and width greater than the length and width of the bottom panel 11 the corners of the article may be protected by additional packaging which can be effectively retained within the blank. When the article has a base length and width smaller than the bottom panel 11 excess blank material along the adjoining edges of panels 12 and 14 may be tucked in and be retained by the overlapping fastening 17, the top panel 16 may overlap the free edge of panels 12 and 14 and, when packaging of a wide range of products of different dimensions is envisaged, addi-

tional panels of velcro material may be presented along the opposite side edges of panel 13, as is indicated by numeral 22, to overlay the adjacent side edges of panels 12 and 14 and assist in retaining the blank about the article as well as affording a tight neat packaging of pleasing appearance.

It will be appreciated that as the panels 17, and when provided panels 22, are turned through 90° to the general plane of their respective supporting panels to adopt a fastening condition the actual packaging of an article may be performed in many different ways and thus, as one different method to that described above with an article resting squarely on bottom panel 11, the panels 13 and 15 with 16 may be raised first, the free edge of panel 16 drawn tightly over panel 13, and the panels 18 applied to panel 13 to retain panel 16 with panel 13. Thereafter, panels 12 and 14 may be raised one after the other, said panels 12 and 14 being pulled up tight with their free edges beneath panel 16 before the fastener panels 17 on panel 16 are applied to retain the panels 12 and 14 with panel 16, and thereafter the side edges of panels 12 and 14 can be tucked in to lie beneath the adjacent panels 13 or 18 before the fastener panels 17 on panel 15 and fastener panels 22 on panel 13, when provided, are turned over to retain the side edges of said panels.

It will be appreciated that the blank, provided with readily detachable fasteners, is not adversely damaged when removed from a packaged article, so that blank is recoverable, and the flexible nature of the blank not only facilitates effective packaging of articles but also allows the blank to be readily folded or rolled up to facilitate storage and return to the packaging source.

In the example shown in Figure 2 the blank for packaging comprises three separable parts, the major blank part comprises bottom panel 31, side panels 32 and 33 and top panel 34 made in one continuous strip with separated panels 35 along both length edges of the strip. The other two parts of the blank define side panels 36 and 37.

The three blank parts are made of sandwich construction with the externally presented material comprising brushed nylon. As is well known in the art brushed nylon co-operates well with velcro and the fastenings of the package comprise strips of velcro material 38 along the outer edge regions of panels 35 on the internal face of the blank 31, 32, 33, 34 and 35.

The blank is assembled for use as a packaging by laying the blank 31, 32, 33, 34, 35 open with the polyvinylchloride side uppermost and locating panels 36 and 37, brushed nylon face lowermost, at convenient locations along blank 31, 32, 33, 34, 35, with an edge region of each panel 36 and 37 overlapping an edge region of the main strip blank as shown in Figure 2. The panels 36 and 37 are then detachably secured to the main strip panel by simply pressing the velcro strips beneath said panels 36 and 37 into engagement with the brushed nylon under-surface of said panels.

An article to be packaged is wrapped within the blank, by simply locating the article on base panel 31, lifting side panels 36 and 37 to engage their

respective article sides, and then elevating panels 32 and 33 and overlaying the panel 34 on the article. To secure the packaging it is only necessary to turn the panels 35 until the velcro strips thereon engage with the brushed nylon external surfaces of panels 36 and 37 and a secure and neat packaging is obtained thereby.

An obvious advantage of the blank form illustrated in Figure 2 is that each major blank 31, 32, 33, 34, 35 may be used with a multiplicity of panels 36, 37 of different dimensions, the locating of panels 36 and 37 in the length direction of the major blank panel is infinitely variable and thereby a wide variety of article sizes can be accommodated by the packaging.

The major blank strip 31, 32, 33, 34 and 35 may include strengthening panels and handles similar to or identical with the panels and handles 19, 20, 21 shown in Figure 1.

The blank illustrated in Figure 3 is of cross-like configuration and comprises a top panel 40 of rectangular configuration with side panels 41, 42, 43 and 44 secured one to each side edge of the panel 40. The side panel 41 has panels 45 and 46 extending from its parallel side edges, the opposite side panel 43 has panels 47 and 48 along its three parallel side edges, and the panels 45, 46, 47 and 48 have strips 49 of velcro material secured thereto.

The velcro strip material is presented on the internal surface of the blank and the external surface of the blank comprises a material co-operable with the velcro strip, such material being brushed nylon.

To form the blank of Figure 3 into a packaging it is simply necessary to deflect the side panels 41, 42, 43 and 44 about their connections with top panel 40 so that said panels 41, 42, 43 and 44 lie at right angles to the top panel 40 to form a rectangular box, open at one end. With the panels 41, 42, 43 and 44 in such positions the panels 45 and 46 are displaced to engage the outer surfaces of the adjacent edges of panels 44 and 42 respectively, the panels 47 and 48 are displaced to engage the adjacent side edges of panels 44 and 42 respectively, the panels 47 and 48 are displaced to engage the adjacent side edges of panels 44 and 42 respectively, and it is then simply necessary to press the velcro strip material 49 on each panel 45, 46, 47 and 48 into the co-operating material forming the external faces of panels 42 and 44, to complete the formation of the blank into a package.

The blank material illustrated in Figure 4 and which is particularly suitable for the blanks of Figures 1, 2 and 3 is of sandwich construction and comprises a sheet of resilient foam F with a sheet of polyvinyl chloride P bonded to one major face and a sheet of brushed nylon N bonded to the other major face. As stated hereinbefore the brushed nylon material is presented as the external face of the blank when the blank is forming a packaging, so that said brushed nylon surface can co-operate with the velcro strip material.

It will be apparent that the formation of the blank of Figure 1, 2 or 3 into a packaging can be readily affected when the article to be packaged is available and thus, for example, in the case of the blank of Figure 3, it is only necessary to place top panel 40 on

the top of the article, fold the side panels 41, 42, 43 and 44 downwardly to embrace the four sides of the article, and then to secure the velcro fasteners 49.

Figure 5 shows, in exploded perspective view, the blank of Figure 3, in packaging form, in combination with a base for supporting an article 50 to be packaged, the article 50 being shown in broken line.

The base comprises a rigid, semi-rigid, or a flexible base panel 51 with four short side walls 52, 53, 54 and 55 upstanding therefrom and connected at their corner regions, detachable fasteners, such as by laces 56. Two straps 57 and 58 are secured to the undersurface of bottom panel 51 and extends upwardly therefrom to handles 59 and 60.

In use, an article 50 to be packaged is first placed on the base panel 51, the blank 40 to 49 inclusive is formed into a packaging to protect the top and sides of the article, either separately from the article or formed around the article, and with the packaging snugly surrounding the top and side walls of the article 50 the side walls 52, 53, 54 and 55 of the base panel 51 are erected and secured, by the lacings 56, preferably with the lower regions of panels 41, 42, 43 and 44 tucked within side walls 52, 53, 54 and 55. With the article 50 thus effectively packaged the package can be displaced manually by the handles 59 and 60.

It will be appreciated that an article, of the type defined, packaged within a packaging defined by the blank of Figures 1, 2, 3 and 5, will be effectively protected against accidental damage and, further, if the article is subjected to breakage, particularly in the case of a television set which if dropped can result in implosion of the tube, the packaging will effectively contain the broken article.

Further it will be appreciated that the packaging proposed by the present invention, when stripped from an article, can be readily folded, or rolled, to a compact form for transportation back to the packaging site for re-use.

CLAIMS

1. A packaging for an article of the type defined comprising a blank of flexible material including four side panels and a top panel, with detachable fasteners for retaining the blank in a box-like form with one open end.

2. A packaging blank as claimed in claim 1 of crosslike form and in which the four side panels extend from the four sides of the top panel.

3. A packaging blank as claimed in claim 1 in which the four side panels extend in side by side relationship and the top panel is attached to only one side panel.

4. A packaging blank as claimed in claim 1, 2 or 3 comprising two or more blank parts with fastening means, which allow the blank parts to be assembled together in different positions.

5. A packaging blank as claimed in claim 1, 2, 3 or 4 including a bottom panel.

6. A packaging blank as claimed in claim 1, 2, 3 or 4 in combination with a bottom panel, said bottom panel having a side wall attached to each of its edges and intended, in use, to be upstanding from the

bottom panel.

7. A packaging blank as claimed in claim 5 or 6 including hand grips secured to said bottom panel or to side walls attached to the bottom panel, and
5 intended to lie adjacent opposite sides of an article supported squarely on the bottom panel.

8. A packaging blank as claimed in any preceding claim made from a woven or non-woven material.

9. A packaging blank as claimed in any preceding
10 claim made from a plurality of layers of different flexible materials.

10. A packaging blank as claimed in any preceding claim including strengthening panels.

11. A packaging blank as claimed in any preceding
15 claim in which said detachable fasteners comprise strips of velcro material.

12. A packaging blank as claimed in any preceding claim in which at least some detachable fasteners are arranged on strips or panels forming extensions of the blank panels and which strips or panels
20 overlap the panels of the blank when the blank is assembled to form a packaging.

13. A packaging blank as claimed in claim 12 in which said fasteners comprise strips of velcro material and the exterior of the blank when forming a
25 packaging comprises a material co-operable with said velcro material to retain the blank in packaging form.

14. A packaging blank substantially as hereinbefore described with reference to and as illustrated in
30 Figures 1, 2 or 4 and 5 of the accompanying drawings.

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